FIXED PRICE
RESEARCH & DEVELOPMENT CONTRACT

RFP NO. N11-552142
February 04, 2002

BETWEEN

CALIFORNIA INSTITUTE OF TECHNOLOGY
JET PROPULSION LABORATORY
(The "Institute" or "JPL")
4800 OAK GROVE DRIVE
PASADENA, CALIFORNIA 91109-8099

AND

{TYPE CONTRACTOR'S NAME AND ADDRESS HERE}

THIS CONTRACT FOR

{Ku-Band Pulsed Traveling Wave Tube Amplifier on the Ocean Vector Winds Mission Scatterometer}

IS A

SUBCONTRACT UNDER JPL's NASA PRIME CONTRACT

TASK ORDER NO. 10626

A DO - C9 Rating is assigned to this Contract under DMS Regulation 1

CONTENTS

The following documents are incorporated into and made a material part of this contract.

GENERAL PROVISIONS: Fixed-Price Research and Development Contract R 8/01, with Included Exhibits.

JPL 1737, "Release of Information" R 9/99

JPL 2385, "Notification to Prospective Contractors of JPL's Ethics Policies and Anti-Kickback Hotline" R 7/91

JPL 2892, "Certifications" R 4/99

JPL 2895, "Asbestos Notification" R 9/98

ADDITIONAL GENERAL PROVISIONS (AGPs)

THE FOLLOWING AGPs ARE APPLICABLE FOR DOMESTIC CONTRACTOR:

New Technology R 8/01

Flight Systems or Subsystems-Overtime(3-01)

Foreign Travel Reporting Requirements (4/99)

Patent Rights – Retention by the Contractor (Short Form) (4/99) (Small Business)

Progress Payments R4/99 (Large Business)

Progress Payments – Small Business R 4/99

Safety And Health R 4/00

Special Test Equipment R 4/99

Special Tooling R 4/99

THE FOLLOWING AGPs ARE APPLICABLE FOR FOREIGN CONTRACTORS:

Duty-Free Entry R 3/00

New Technology R 8/01

Flight Systems or Subsystem-Overtime (3-01)

Foreign Travel Reporting Requirements (4/99)

Invention Reporting and Rights - Foreign R 4/99

Patent Rights – Retention by the Contractor (Short Form) (4/99)(Small Business)

Progress Payments R 4/99 (Large Business)

Progress Payments – Small Business R 4/99

Report of Shipment R 4/99

Safety and Health R 4/00

Special Test Equipment R 4/99

Special Tooling R 4/99

Taxes - Foreign Fixed-Price Contract R 4/99

PREAMBLE

This Contract, entered into on by and between the CALIFORNIA INSTITUTE OF TECHNOLOGY (hereinafter called the "Institute" or "JPL"), a corporation organized and existing under the laws of the State of California, and {Type Name of Contractor Here} (hereinafter called the "Contractor"), a corporation organized and existing under the laws of the State of {Type State of Incorporation here}and constituting a subcontract under prime contract with NASA;

WITNESSETH THAT:

The Contractor agrees to furnish and deliver the supplies and perform the services set forth in this Contract for the consideration stated herein.

SCHEDULE

ARTICLE 1. STATEMENT OF WORK AND DELIVERY INSTRUCTIONS — On or Before

1.0 The Contractor shall provide the necessary labor, materials, special tools, facilities, services, test equipment and management to design, analyze, fabricate, assemble, integrate, test and deliver one (1) Engineering /Qualification Model (EQM) Ku-Band Pulsed Radar Traveling Wave Tube Amplifier (TWTA) Assembly in accordance with Exhibits I through III.

In the performance of this effort the Contractor shall:

1.1 Ku-band TWTA Design, Analysis, Fabrication, Assembly, Integration and Test.

1.1.1 Develop Detailed Design

1.1.1.1 Develop a TWT/High Voltage Power Supply (HVPS) requirements allocation, determining the required levels of the TWT and HVPS performance to ensure appropriate TWTA performance in accordance with Exhibit III.

1.1.1.2 Develop detailed electrical/electronic design of the TWTA, TWT and HVPS in accordance with the Exhibit II and Exhibit III.

1.1.1.3 Develop detailed mechanical, structural and thermal design of the TWTA, TWT and HVPS in accordance with Exhibits I through III.

1.1.2 Data

Establish and maintain a database to archive all relevant TWT, HVPS, and TWTA test data. All test data shall be made available for inspection at the contractor within 2 days of JPL notification of intent to inspect the data.

1.1.3 Changes

Revise paragraph 1.1.1 documentation generated above as necessary to incorporate any changes resulting from EQM TWTA testing. Obtain JPL approval for use of revised documentation on PFM TWTA testing.

1.1.4 Shipping

Provide one shipping container for the EQM TWTA.

1.2 Engineering Coordination and support

Provide support on a Level-Of-Effort (LOE) of up to 250 engineering hours direct labor for tasks directed by the JPL Contract Technical Manager (CTM). Such support is envisioned, nominally, to support the integration and test of the TWTA with the OVWM Scatterometer. Costing of such support is not to include travel expenses. JPL Contract Negotiator will use a JPL Technical Direction Memorandum (TDM) to authorize such direction. Contractor and JPL agree that such support shall not affect any part of the fixed-price effort (including but not limited to the requirements, schedule, and price). The support shall only be used to add new and separate work as defined and limited by this paragraph, within the general scope of this Contract.	20 months ADOC for delivery of EQM Note: LOE will be increased from 250 hours to 500 hours under the PFM Option Provision

1.3 Support and Special Test Equipment:

1.3.1 Support Equipment Safety

Analyze support equipment/special test equipment interface circuitry to demonstrate that EQM and PFM hardware (Option Provision) will not suffer damage or experience stress in the event the test equipment fails.	With the EQM TWTA and the PFM TWTA under the Option Provision

1.3.2 Calibrated Radio Frequency (RF) Test Systems (Transfer Standards)

Design, develop, calibrate, deliver two (2) each RF input and output test systems to JPL. Each test system shall monitor input and output average RF power (not peak RF power) and shall afford the capability of monitoring RF output pulse waveform shape. These RF test systems shall include RF power sensors, but need not include power meters or RF sources. Also, these RF test systems shall be identical in topology and shall perform the same functions. The calibration factors for each RF test system shall be documented in calibration reports. Note: This provision is made in order to resolve disparities in power measurements made at the Contractor's facility and at JPL by providing a transfer standard that mitigates calibration uncertainties. The Contractor shall determine calibration differences between the test systems provided to JPL and the test systems that the contractor will use for obtaining deliverable test data on the OVWM TWTAs.	With the EQM TWTA

1.3.3 DC Control Panel

Design, develop and deliver two (2) each TWTA DC control panels to JPL. Each control DC control panel shall be rack mountable. Each DC control panel shall implement the following functions: • Interface DC (test) power supply to HVPS bus power input. • Interface function generator to generate RF pulse control	With the EQM TWTA and with the first PFM TWTA under the Option Provision

signal for the control input of the HVPS.

- Provide measurement points for the analog and digital telemetries of the TWTA.
- Implement appropriate TWTA mode control (if applicable).

The Contractor shall specify any appropriate constraints on Laboratory test equipment to be interfaced to the DC control. Safety of personnel and flight hardware shall be the primary consideration in establishing these constraints.

1.4 Deliver and Acceptance of EQM Hardware:

1.4.1 Engineering Qualification Model Traveling Wave Amplifier (EQM TWTA)

1.4.1.1 Fabricate and assemble the EQM TWTA to conform to the form, fit and function of the requirements in Exhibit III. The EQM requirements shall qualify the TWTA design with respect to performance, thermal and packaging aspects of the design.

1.4.1.2 Complete the functional, performance and final acceptance testing of EQM TWTA at Contractor's facility as defined in Exhibit II/TE-001.

1.4.1.3 Inspect the EQM TWTA for conformance in accordance with Exhibit II/DS 002.

1.4.1.4 Close all Material Review Boards (MRBs) for the EQM TWTA at Contractor's facility with receipt of approval from JPL Contract Technical Manager.

1.4.1.5 Complete the EQM TWTA Pre-Ship Review (PSR) at the contractor's facility in accordance with Exhibit II/RE-001 and Exhibit II/RE-006.

1.4.1.6 Deliver EQM TWTA hardware to JPL. — 20 months ADOC

1.4.1.7 Procure long-lead parts for the ProtoFlight Models (PFM) and deliver to JPL. — 6 months after delivery of EQM if the PFM option provision is not exercised.

1.5 Programs Plans and Data

1.5.1 Prepare and submit all data as defined in Exhibit II (Contract Data Requirements List and Data Requirements Description) to JPL.

1.5.2 Implement provisions of the plans required in Exhibit II subsequent to JPL approval.

1.6 Reviews:

Conduct TWT, HVPS and TWTA Reviews described in the JPL approved Review Plan in accordance with Exhibit II/RE-001 through RE-006, as applicable. If possible, combine the TWT and HVPS level reviews into the TWTA PDR, CDR as follows.

1.6.1	Combine TWT/ HVPS Inheritance/Lessons-Learned (ILL) Reviews and Requirements Reviews for the TWTA and TWTA support equipment at the Contractor's facility. The ILL, of any existing design(s) to be used in the TWTA and the TWTA support equipment, shall be in accordance with Exhibit II/RE-001 and RE-002. The Requirements Reviews for the TWTA and TWTA support equipment shall be in accordance with Exhibit II/RE-003.	45 days ADOC
1.6.2	Preliminary Design Review (PDR) package and PDR of the TWT, HVPS and TWTA design at the contractor's facility in accordance with Exhibit II/RE-001 and Exhibit II/RE-004.	PDR package 10 working days before PDR; PDR - 9 months ADOC
1.6.3	Pre-Ship Review at the Contractor's facility for each deliverable hardware item with an End-Item-Data Package. Each review shall include a presentation of a completed Hardware Review/Certification Requirement (HRCR), as appropriate, with back-up details in accordance with Exhibit II/RE-001 and Exhibit II/RE-006.	10 working days before delivery of EQM
1.6.4	Critical Design Review (CDR) package and CDR of the TWT, HVPS and TWTA design at the contractor's facility in accordance with Exhibit II/RE-001 and Exhibit II/RE-005.	CDR package 10 working days before CDR; CDR - 20 months ADOC

1.7 Program Meetings.

1.7.1 Conduct Periodic Management Reviews (PMR) meeting between JPL and Contractor representatives (including major subcontractors) at contractor's facility in accordance with Exhibit II/MA-004. The PMR shall nominally occur every two months at Contractor's facility. Conduct periodic technical interchange meetings, held nominally one day before the PMR, to discuss electrical, mechanical, structural and thermal interfaces between TWT, HVPS, and OVWM instrument. Attendance will be by the TWTA Contract Technical Manager/TWT Cognizant Engineer, and appropriate personnel (including major subcontractors) as needed and their contractor equivalents in accordance with MA-004.

1.8 Management and Technical Liaisons.

1.8.1 Assign an individual (or individuals) to serve as focal points for program management, and a focal point for technical responsibilities.

1.8.2 Maintain informal technical Liaison between JPL's Contract Technical Manager, or his alternate to permit JPL's timely involvement in relevant technical meetings, technical reviews, and problem solving sessions at the Contractor's facility.

1.9 Advance Notification

Provide advance notification to JPL personnel as follows:

1.9.1 To the Cognizant Quality Assurance Representative or the JPL Contract Technical Manager (CTM), one (1) work week in advance of Contractor Material Review Board (MRB) activities that involve repair or use-as-is disposition to permit JPL review and participation in the approval or disapproval of MRB decisions.

1.9.2 To the cognizant Quality Assurance Representative or JPL CTM two (2) working weeks in advance of a Mandatory Inspection Point (MIP) as identified in the Manufacturing and test flow charts in Exhibit II/QA-001.

1.10 Status Reports

1.10.1 Provide by e-mail Weekly Status and Major Problem Reports in accordance with Exhibit II/MA-004 nominally to be followed by a weekly conversation between the JPL CTM, Contractor's equivalent and other personnel as appropriate.

1.11 Facilities for JPL Representatives

1.11.1 Provide for visiting JPL representatives at Contractor's facility and its major subcontractor's facility; access to: telephone, to FAX capability, to the internet (with provisions to get through the contractor's "fire walls" to the JPL internet), secretarial services, reproduction services and reasonable use of Contractor's mail system.

1.12 Data, Parts and Material, Records and Storage

1.12.1 Establish and maintain an electronic server-based, configuration-controlled and access-protected database system accessible by Internet to JPL representatives for all Contractor-generated data and documentation identified on the Master-Controlled Document List in Exhibit II/CM-001.

1.12.2 Maintain the TWTA EQM and Protoflight Model (PFM) Parts and Material in an environmentally and physically controlled area. This area shall be accessible to JPL QA representatives upon request. JPL QA representative shall have the right to audit TWTA parts and materials in this area.

1.13 Clean Room

Assign and use clean room areas (as necessary), in accordance with PD 686-035, for the production and testing of the TWT, HVPS, and TWTA. Ensure that the clean room areas conform to requirements contained within the JPL approved Electrostatic Discharge Control Plan, Exhibit II/QA-003 and within the JPL approved Contamination Control Plan, Exhibit II/QA-004, unless Contractor's internal controls are JPL approved.

2.0 Exhibits

The following Exhibits are hereby incorporated into and made a part of this Contract.

2.1.1 Exhibit I – Applicable Documents List, dated March 05, 2002.

2.1.2 Exhibit II – Contract Data Requirements List for Ku-Band Pulsed TWTA on the OVWM Scatterometer, dated March 05, 2002.

2.1.3 Exhibit III – Component Specification CS518574 for Ku-Band TWTA on the OVWM Scatterometer, dated March 05, 2002.

3.0 JPL will:

3.1 Review and approve or disapprove documents submitted by the Contractor within twenty (20) working days after receipt at JPL by the Contract Negotiator, except as noted in the Contract Data Requirement List. If no response has been received, the Contractor shall proceed as if approval has been given.

3.2 Provide the JPL documents mentioned in Exhibits I through III (except for non-JPL documents that are the responsibility of the Contractor to acquire).

3.3 Provide the final high voltage cable length at CDR.

3.4 Resolve technical issues with the Contractor on a timely basis and provide in-scope technical direction in writing (via TDM's) as necessary via the JPL Contract Negotiator.

3.5 Identify mandatory inspection points within the Contractor's manufacturing and test flow plan.

3.6 Provide a Quality Assurance Representative to witness formal, final acceptance, and environmental tests (as JPL deems necessary), to inspect parts (as JPL deems necessary), and to participate in all MRB actions that require "repair" or "use-as-is" disposition.

3.7 Provide an engineering witness for all formal, final acceptance, and environmental tests, as JPL deems necessary.

3.8 Provide temperatures sensors.

3.9 Provide written approval to proceed with the build of the EQM within ten days after satisfactory completion of the PDR.

3.10 Confirm the compliance of the EQM and PFM TWTAs (if the option provision is exercised) to the functional and performance requirements of CS518574 within 45 calendar days of delivery to the JPL designated location.

4.0 Delivery Instructions

4.1 Except as otherwise provided in this Contract, the point of inspection, final acceptance shall be at the Contractors facility. Delivery of all supplies deliverable under this Contract shall be the Jet Propulsion Laboratory, 4800 Oak Grove Drive, Pasadena, California 91109. All such supplies shall be packaged, packed, boxed, or crated in such a manner to ensure safe delivery and shall be shipped prepaid and at the Contractors expense to the point of delivery

4.2 Time is of the essence in the performance of this Contract.

4.3 The Contractor shall furnish the Contracting Officer (CO) with the annual and final reports of reportable items described in the Article entitled “New Technology” (or “Invention Reporting and Rights-Foreign,” in the case of foreign Contractors). Copies of transmittal letters for those reports shall be sent to the JPL Intellectual Property Office (IPO) and to the cognizant negotiator.

ARTICLE 2. PRICE AND PAYMENT

1.0 Total Fixed Price: $ TBD. This will be paid upon successful completion of all work described in Article 1.0, excluding paragraph 1.2.

2.0 Ceiling Price for the support effort under paragraph 1.2: $TBD.

2.1 Labor Rates: Insert labor rates for engineering personnel as specified in Article 1, Statement of Work, paragraph 1.2. (To be negotiated).

2.2 The Contractor shall not be reimbursed for any hours worked beyond what JPL authorizes in a TDM to the Contractor.

3.0 No part of the Firm Fixed Price is to be used to pay for work authorized under Article 1, Statement of Work, paragraph 1.2.

4.0 Total Fixed Price: – Progress payments will be allowed according to the terms set forth in the Additional General Provision entitled “Progress Payments”.

5.0 Delivery Incentive – To be negotiated.

Option Provision – Three (3) PFM Hardware

6.0 Total Fixed Price: $TBD. This will be paid upon successful completion of all option work described in Article 5, Option Provision, excluding paragraph 1.3.

7.0 Invoices.
An original and two copies of invoices must be sent to:

JPL Subcontract Payment Group
4800 Oak Grove Drive
Pasadena, California 91109

If progress payments are authorized under the Contract, the Contractor shall attach to each invoice, submitted in accordance with the General Provision of this Contract entitled “Payments and Discounts,” a fully completed “Contractor’s Request for Progress Payment, “ Standard Form 1443, or equivalent.

ARTICLE 3. LIMITATION OF JPL's OBLIGATION

1.0 The Firm Fixed Price and Ceiling Price of this Contract is the amount set forth in paragraphs 1.0 and 2.0 of ARTICLE 2, PRICE AND PAYMENT, subject to the limitations set forth in this Article.

2.0 Subject to paragraph 7.0 below, the amount set forth in Period No. 1 of the following Incremental Liability Schedule reflects the maximum limitation of the Institute's liability for all purposes, including incurred costs, termination costs (including amounts payable with respect to subcontracts and settlement costs) and allowance for profit or fee:

INCREMENTAL LIABILITY SCHEDULE FOR EQM

Period No.	Cumulative Maximum Liability	Terminal Date
1	35%	November 1, 2002
2	75%	December 2, 2003
3	100%	N/A

INCREMENTAL LIABILITY SCHEDULE FOR OPTION PFMs

4	60%	November 1, 2003
5	100%	N/A

3.0 It is anticipated that JPL shall, prior to the terminal date, if any, of the Period specified in the first line of paragraph 2.0 above, issue a Unilateral Modification to revise the maximum limitation to the amount set forth in the next successive period. The determination as to whether to issue such a modification shall be at JPL's sole discretion. In the event that JPL does not issue such a modification prior to the terminal date, this Contract shall, unless the Contractor requests a terminal date extension in writing prior to the terminal date, be deemed terminated for convenience and the Contractor shall proceed as if the Contractor has received a Notice of Termination pursuant to the GP Article entitled “Termination for Convenience." JPL shall, upon receipt of a written request from the Contractor for Terminal Date extension, immediately issue a unilateral modification extending the Terminal Date in accordance with Contractor's request. If the Contractor or JPL have reason to believe that any other change in the Incremental Liability Schedule would be in the best interest of the contract effort, the Contractor or JPL may notify the other party in writing to that effect, together with the requested change. If the Contractor and JPL agree with the requested change, the Incremental Liability Schedule will be revised by Supplemental Agreement to the Contract.

4.0 In the event that JPL issues such a UM to increase the liability after the terminal date, the Contract shall no longer be deemed terminated, and such UM shall have the same effect as if it had been issued prior to the terminal date; provided however, that if JPL's failure to issue the UM by the terminal date caused an increase of the cost of, or the time required for, performing this Contract, because the Contractor proceeded as if a Notice of Termination had been issued, an equitable adjustment shall be made in (i) the Contract Price, the time of performance, or both; and (ii) other affected terms of the Contract. The Contractor must assert its right to such equitable adjustment within 30 days of receipt of the UM. However, if JPL decides that the facts justify it, JPL may receive and act upon a proposal submitted before final payment of the Contract. Subject to paragraph 7.0 below, in the event that this Contract is terminated pursuant to this Article, or otherwise terminated by JPL pursuant to the GP Article entitled “Termination for Convenience,” the cumulative liability amount set forth in the Incremental Liability Schedule for the Period referenced in the first sentence of paragraph 2.0 of this Article, reflects JPL's maximum liability notwithstanding anything to the contrary in the GP Article entitled “Termination for Convenience,” or the value of supplies and services delivered to and retained by JPL.

5.0 Unilateral Modification Liability Limits.

(1) Reserved.

(2) Reserved.

6.0 The Contractor has used the Incremental Liability Schedule to plan its progress payments, partial payments, obligations and termination liability. It is a management prerogative of the Contractor to determine if any part of these elements are to be under funded or at risk (relative to the Incremental Liability Schedule) for any period of time. This is a firm fixed price type Contract. The Contractor assumes all risk for any variance between planned and actual costs, including planned and actual termination liability. The Contractor is strictly liable for all cost variances, including cost variances attributable to indirect rate changes and shall in no event be excused from the obligation to complete performance in accordance with the price, delivery schedule, and technical requirements of this Contract.

7.0 If the Contract is modified, the provisions of this Article shall not limit the Contractor's obligation pursuant to GP Article entitled "Changes," to diligently pursue the performance of the Contract as modified. In the event that a unilateral modification contains a liability limit for work performed under such modification, the Contractor's obligation to pursue performance of such modification and the Institute's liability for such modification, shall, until the UM(s) is bilaterally settled, be limited by the amount of the liability limit included in the UM. Until such a UM is settled, the liability limit on the UM does not increase the baseline liability in paragraph 2.0. In the event that this Contract is deemed terminated pursuant to paragraph 3.0 of this Article or the GP Article entitled "Termination for Convenience," prior to the settlement of an outstanding UM(s), the Institute's maximum liability for all purposes, including incurred costs, termination costs (including amounts payable with respect to subcontracts and settlement costs and consideration for delivered supplies and services) and allowance for profit or fee, shall be no more than the sum of the cumulative liability amount set forth in the Incremental Liability Schedule for the Period referenced in the first sentence of paragraph 2.0 of this Article, plus the liability limit(s) set forth in the UM(s).

8.0 In the event that this Contract contains a provision providing for progress payments, such provision shall be subject to the limitations set forth in this Article and the "contract amount" referred to in any such provision for progress payments is the Firm Fixed Price of this Contract set forth in paragraph 1.0 of ARTICLE 2, PRICE AND PAYMENT.

9.0 The provisions of this Article shall in no way limit the Institute's rights under the GP Article entitled default.

ARTICLE 4. SPECIAL PROVISIONS

1.0 Key Personnel/Facilities

The personnel and/or facilities, if any, specified below are considered essential to the work being performed hereunder. Prior to removing, replacing, or diverting any of the specified individuals or facilities, the Contractor shall notify JPL reasonably in advance and shall submit justification (including proposed substitutions) in sufficient detail to permit evaluation of the impact on this Contract. No diversion shall be made by the Contractor without the written consent of JPL; provided, that JPL may ratify in writing the change, and such ratification shall constitute the consent of JPL required by this Article. Paragraph 1.2 below may, with the consent of the Contracting parties, be amended from time to time during the course of the Contract to either add or delete personnel and/or facilities, as appropriate.

The following Contractor personnel shall be considered Key Personnel under this Contract:

Name	**Title**	**% of Time Available to this Contract**
TBD		

2.0 Shipping Requirements for Shipping to JPL (Applies to Foreign Contract Only)

Shipments originating from outside the United States should be addressed and invoiced to Jet Propulsion Laboratory, 4800 Oak Grove Drive, Pasadena, CA C/O Packair Customs House Broker, Los Angeles International Airport, Attn: Roger Bachar. The contract number must appear on all packages and documents, including invoices.

Prior to or at the time of shipment, please fax a copy of invoice and the carrier's air waybill to Attn: Suzette Baugh, (818) 393-5029. The invoice should at a minimum list: the items being shipped, associated values, the JPL contract number, the name of the carrier, and the carriers air waybill number.

3.0 Language of Contract (Applies to Foreign Contract Only)

In the event of any inconsistency between any items of this Contract and any translation into another language, the English language meaning shall control. All communications relating to the Contract shall be entirely in English using the same technical standards used in the specification of the Contract.

4.0 Warranty to Perform (Applies to Foreign Contract Only)

The Contractor warrants that it has been duly authorized to operate and do business in the country or countries in which this Contract is to be performed. The Contractor also warrants that it has obtained, at no cost to the Institute, all necessary licenses and permits required in connection with the Contract; and that it shall fully comply with all laws, decrees, labor standards and regulations of such country or countries during the performance of this Contract.

5.0 Prime Contract Expiration

This Contract is a subcontract under the current JPL/NASA prime contract, which expires on September 28, 2003. NASA reserves the right to transfer or novate this Contract to a successor prime contractor in the event the JPL prime contract is not renewed.

For Contracts with progress payments, the Contractor shall submit a report with the total amount invoiced corresponding to the total progress payments received through September 28, 2003. For Contracts without progress payments, the Contractor shall submit a report with the amount invoiced through September 28, 2003. Invoices for September 2003 shall coincide with September 28 not 30. The purpose of the invoice report is to enable JPL to allocate and account for monies billed under the current and anticipated successor JPL/NASA prime contract. Invoices submitted on or before September 28, 2003 shall be allocated to the current JPL/NASA prime contract. Invoices submitted after September 28, 2003 shall be allocated to the anticipated successor prime contract. Backup financial records and invoices should be retained for a reasonable period of time following the Contract end date.

ARTICLE 5. OPTION PROVISION

	On or Before
Before the ARTICLE 5, OPTION PROVISION, can be exercised, the JPL/NASA Prime Contract must be renewed or the Contract transferred by NASA to a successor Contractor in the event the JPL/NASA Prime Contract is not renewed.	18 months ADOC
JPL reserves the right to unilaterally modify this Contract to purchase up to three (3) Protoflight Model (PFMs) TWTAs.	
This Option Provision may be exercised no later than eighteen months after ADOC by JPL issuing a Contract Unilateral Modification.	
1.0 Design, Fabricate, Assemble, Integration and Test of PFMs	
The Contractor shall provide the necessary labor, materials, special tools, facilities, services, test equipment and management to design, analyze, fabricate, assemble, integrate, test, and deliver three (3) PFMs in accordance with Exhibits I through III.	
1.1 Design and Development of PFM TWTA	
1.1.1 Fabricate and assemble three (3) PFM TWTAs to conform to the form, fit and function of the Protoflight requirements in Exhibit III.	
1.1.2 Complete all functional, performance and final acceptance testing of each PFM TWTA at the Contractor's facility as defined in Exhibit II/TE-001.	
1.1.3 Inspect each PFM TWTA for conformance in accordance with Exhibit II/DS 002.	Protoflight Model TWTA No. 1 29 months ADOC
1.1.4 Close all MRBs for each PFM TWTA at Contractor's facility with receipt of approval from JPL Contract Technical Manager.	Protoflight Model TWTA No. 2 29 months ADOC
1.1.5 Complete PSR for three PFM TWTA at Contractor's facility in accordance with Exhibit II/RE 001 (including informal Hardware Requirements Configuration Review (HRCR)) and Exhibit II/RE 006.	Protoflight Model TWTA No. 3 29 months ADOC
1.1.6 Deliver each PFM TWTA to JPL.	
1.1.7 Shipping	
Provide shipping containers for each PFM TWTA	
1.2 DC Control Panel	
1.2.1 Fabricate additional DC Control Panels as required to support testing of the PFM TWTAs Nos. 2 and 3.	To be kept at Contractor's facilities until end of Contract
1.3 Engineering Coordination and support	

	Provide support on a LOE of up to 250 engineering hours of direct labor for tasks directed by the JPL CTM. Such support is envisioned, nominally, to support integration and test of the TWTA with the OVWM Scatterometer. Costing of such support is not to include travel expenses. JPL Contract Negotiator will use a JPL TDM to authorize such direction. Contractor and JPL agree that such support shall not affect any part of the fixed-price effort (including but not limited to the requirements, schedule, and price). The support shall only be used to add new and separate work as defined and limited by this paragraph, within the general scope of this Contract.	29 months ADOC for delivery of three PFMs
1.4	Reviews	
1.4.1	Pre-Ship Review at the Contractor's facility for three deliverable PFMs hardware with an End-Item-Data Package. Each review shall include a presentation of a completed Hardware Review/Certification Requirements (HRCR), as appropriate, with back-up details in accordance with Exhibit II/RE-001 and Exhibit II/RE-006.	10 working days before delivery of PFMs

IN WITNESS WHEREOF, the parties hereto have executed this Contract as of the day and year first above written.

CALIFORNIA INSTITUTE OF TECHNOLOGY

By _____
{TYPE NAME OF ACQUISITION REP HERE}

_____
(Title)

{TYPE NAME OF CONTRACTOR HERE}

By _____
(Signature)

_____
(Typed Name)

_____
(Title)

Instructions to Contractor: Do not insert date on Preamble page.